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is in nearly every respect peculiar, it seems to me best to accept Prof. Hyatt's view, and place sponges by themselves as a distinct sub-kingdom of animals, the *Porifera*.

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II. Halisarca, XXVIII, p. 1.  
III. Chondrosiden, XXIX, p. 87.  
IV. Aphysinidae, XXX, p. 379.  
V. Die metamorphose von Sycandra raphanus, XXXI, p. 262.  
VI. Spongelia, XXXII, p. 117.  
VII. Spongidae, XXXII, p. 593.  
VIII. Hircinia und Oligoceras, n. g., XXXIII, p. 1.

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## LIST OF THE BIRDS OF THE WILLAMETTE VALLEY, OREGON.

BY O. B. JOHNSON.

THIS is not meant to be a complete list of the avifauna of the region named, but only such a part as has fallen under my personal observation during a residence of over ten years at three different points, viz: Five years at East Portland, which is but six miles from the Columbia river; two years at Forest Grove, twenty-five miles west of Portland and at the foot of the Coast

mountains; and the rest of the time at Salem, on the Willamette river, and fifty miles south of Portland. The region referred to lies between the Cascade and Coast ranges, on an average of sixty miles apart, and from the Columbia on the north to the Callipoaia mountains on the south, a distance of about one hundred and thirty miles. To the north, and along each side, and on the streams, it is densely wooded, while on the middle and south is a chain of prairies of greater or less extent, giving great variety to the landscape. I have been necessarily brief, but with any one needing more explicit notes or material, I will gladly correspond.

1. *Turdus migratorius* Linn. (robin).—The robin is very common during the breeding season, nesting extensively, and not rare during the mild wet winter months, especially along the river bottoms.

2. *Turdus naevius* Gmel. (varied thrush), called "Cal. robin," "myrtle robin," "painted robin," and "Oregon robin."—More or less abundant during the winter months, arriving from the north and mountains about December 1st, and remaining until about June 1st. Usually shy and very thrush-like, they sometimes become quite tame about building, learning the habit from the common robin. I have always suspected that they nest in this State, about the bases of the snow-clad mountains, as hunters have told me that they have seen the bird at all times during the season in those places. They have no true song, but in its place they use the call note, which is a prolonged "*chur-r-r*," followed after a short interval by a prolonged "*chee-e-e*" a "third" higher, and both in a minor key. The alarm note is a short decisive "*churk*." They feed upon the ground, scratching among dead leaves, usually in very moist situations. They also come to the gardens for cherries and small fruits.

3. *Turdus ustulatus* Nutt. (Oregon thrush).—Very common during the breeding season, nesting extensively and often raising two broods. The usual situation of the nest is in a dense thicket of low brush about four feet from the ground; it is composed of moss, very bulky and rather more attractive than otherwise, but I found one at the root of a maple tree upon a "burl" about four inches above the ground, two others were in a tree, about fifteen feet high, and composed entirely of twigs and brush well woven, and scantily lined with moss. The alarm note is a short whistle "*whooet*," identical with that of a person attracting the attention

of a dog, the call note is tremulous, "*whaat-r-r-r*," in the same key as the alarm note, only ending in a trill. Every evening and often on cloudy days, their song can be heard from every thicket; it is a peculiar whistle, ascending a scale of four notes, and sounds like "*holsey-govendy-govindy-goveendy*." They feed upon the ground.

4. *Sialia mexicana* Swains. (Western bluebird).—A common summer resident, breeding in deserted woodpecker's holes, knot-holes and crevices, especially delighting in favorable situations about buildings; they will for years return to the same place, even if roughly treated. Their only note is a mournful "*soenk*." They feed upon the ground, dropping upon their prey from an elevated position.

5. *Cinclus mexicanus* Swains. (water ouzel).—Found on all the dashing streams in the valley. I saw but one nest and that was shown me by the owner of a mill, and he said that a brood had been raised for four successive years in the same nest. It was placed between the ends of two projecting planks in the dam, and was an open nest, the upper plank rendering the dome part superfluous; it was of moss and the bark of the cedar from the logs in the vicinity. I suppose that they remain all winter, for I saw them in the Bitter Root mountains, in Idaho, when ice was forming on the streams and the snow two feet deep. The alarm note is a faint "*chip*," expressing interrogation rather than fear, and a song that is seldom heard, owing to the rushing and roaring surroundings; it comes as a faint lisping "*sweet-tweet tr-r-r-eet*," very prolonged, but rendered almost inaudible by its turbulent accompaniment. Their food, I suppose, is entirely aquatic, though I had one make an unsuccessful attempt at an artificial fly cast near it, showing that it knew a "*tit-bit*" as well as its scaly neighbor.

6. *Regulus satrapa* Licht. (golden-crowned kinglet).—Common throughout the winter in flocks, busily searching for insects among the dense second growth of *Abies douglassii*. Their note at this time is a very faint "*tseep*," answered quickly by the others. I have never seen the eggs or nest.

7. *Regulus calendula* Licht. (ruby-crowned kinglet).—Solitary individuals seen occasionally during the winter and spring among the thickets of rose and *Spiræa*. Never saw its nest or eggs.

8. *Parus occidentalis* Baird (western titmouse), called "*chicka-dee*."—Common throughout the year; breeding abundantly in

holes which they excavate in rotten wood, often in stumps not more than two feet from the ground ; nest of hair and wool ; eggs five, pure white, thickly speckled with light-brown, chiefly toward the large end. Its note is a loud, clear "*chick a dee-dee-dee*," given in a monotone.

9. *Parus rufescens* Towns. (chestnut-backed titmouse).—Less abundant than the last, which they closely resemble in habits. A nest that I found in the top of a willow "stub" (not excavated) contained four pure white eggs, somewhat larger than the preceding species, dotted sparingly with large patches of fawn-drab. The nest was lined with fur of a squirrel. Their note is a faint "*ke-dee-dee-dee*," the last syllable uttered a "fifth" higher.

10. *Psalttriparus minimus* Towns. (least titmouse).—Plentiful during the winter months among the evergreens, always in small flocks. Many remain all summer to breed, but they are more retired and less conspicuous. I took a nest of this species in June, 1874 ; it was pensile, built of moss (*Hypnum* and *Tillandsia*), with the entrance (a small round hole) on one side, passing up and over into the inside ; it was lined with feathers and hair, and contained four pure white eggs. Their call note is a subdued "*zip*," "*zip*," varied to "*zip-kitty*."

11. *Sitta aculeata* Cass. (Western nuthatch).—Quite common during the summer and not rare during the winter. They breed in various places, the greatest desire being concealment. A pair had a nest in the college building at Forest Grove and raised seven young ; the entrance was a knot-hole in the siding, and it was placed between the ceiling of the lower room and the floor above and was not accessible. Another was built for several years in the double roof of an ice-house upon the sawdust. I took out a set of nine eggs in 1877, white, specked with light brown of the same shade and pattern as *Parus occidentalis*, differing only in larger size. Their only note is a coarse harsh "*swank*," uttered at intervals that make one expect to see a larger bird.

12. *Sitta canadensis* Linn. (red-bellied nuthatch).—Associated with the preceding, which it much resembles in habits. Its call, "*beek*," is in a higher key and not so coarse. The nest and eggs I have not seen.

13. *Thryothurus spilurus* Vig. (Western mocking wren).—This bird is quite common in the swampy parts of the valley, and breeds, though I never saw its nest or eggs.

14. *Troglodytes parkmani* Aud. (Parkman's house wren).—Common during the summer and breeds plentifully, any place being "just right." I saw a nest in the pocket of a pair of trousers used as a "scare crow." In retaliation for their driving away a pair of blue-birds from a box at my house, I began taking the eggs, and succeeded in getting twenty-one, when I grew ashamed, and they afterwards laid and hatched five more. The song is like that of the Eastern species.

15. *Troglodytes hyemalis* Vieill. (winter wren).—Remains during the winter, living in semi-clearings under brush and log heaps, but leaves for other parts to breed.

16. *Anthus ludovicianus* Gmel. (titlark).—Common during winter, feeding in old fields and in roads.

17. *Helminthophaga celata* Say (orange-crowned warbler).—Very common during summer, and undoubtedly breeds, but I have never found its nest.

18. *Dendræca æstiva* Gmel. (summer warbler).—A very common summer resident, nesting extensively, with the usual habits of the species.

19. *Dendræca auduboni* Towns. (Audubon's warbler).—The most abundant warbler during summer, and a few remaining until far into, if not all, winter. It probably breeds commonly, but I have been able to find but one nest, taken May 26, 1879. It was placed in the top of a small oak (*Q. garryana*), about fifteen feet from the ground, and placed between three upright twigs, built of grass and horsehair, and lined with feathers from a neighboring fowl-yard; it contained four greenish-white eggs, spotted around the larger end in a ring with light-brown and lavender, and a few dots of brownish black; they measured .72 by .54, .71 by .54, .70 by .52 and .70 by .52 of an inch.

20. *Dendræca coronata* Linn. (yellow-crowned warbler).—I have obtained several birds in spring that I have referred to this species.

21. *Dendræca nigrescens* Towns. (black-throated gray warbler). Moderately common during summer in favorable situations, seeming to prefer dense undergrowth near a swamp. I took a nest of this species June 17, 1879, in the top of a clump of *Spiræa*, built of fine roots and dried grass and lined with the down of the cottonwood. It contained four eggs of a dirty-white color, thickly marbled with longitudinal lines and dots, more confluent

toward the larger end, of two shades of light-brown. They measured .66 by .53, .65 by .54, .65 by .54 and .65 by .52 of an inch.

22. *Geothlypis trichas* Linn. (Maryland yellow-throat).—A very common little resident during summer among the reeds and thickets about marshes, where they breed.

23. *Geothlypis macgillivrayi* Aud. (Macgillivray's warbler).—A summer resident, nesting quite commonly; it is usually placed in the very top of a rose thicket and hardly concealed; it is built of dried grass and leaves, and very loosely woven. Eggs usually four, pure white, sprinkled around the larger end with splashes and irregular dots of lilac, pale-brown and umber.

24. *Icteria longicauda* Lawr. (long-tailed chat).—Inhabits the dense thickets of *Spiræa* during the summer, and probably breeds, though I have not seen its nest.

25. *Myiodioctes pusillus* Wils. (green black-capped warbler).—Only noticed during the spring migrations.

26. *Hirundo lunifrons* Say (cliff swallow).—Abundant during summer, breeding chiefly under eaves.

27. *Hirundo bicolor* Vieill. (white-bellied swallow).—Also abundant, nesting in holes in trees.

28. *Hirundo thalassina* Swains. (violet-green swallow).—Also abundant, nesting in knot-holes and crevices about buildings; have never seen their nest in any other situation; among peculiar places, I saw one in a hollow east window sill, another under the tin top of a wooden capital, twelve feet above the sidewalk, another was under a sign that lay flatwise on the awning, another in an old hat that hung in a shed. They are decidedly the most familiar of the three species of swallows.

29. *Vireosylvia solitaria* Vieill. (blue-headed flycatcher).—A common summer resident, chiefly among deciduous trees, where it also nests. The nest is subpensile in a low horizontal fork, neatly and compactly built of fine grass and horsehair, lined with fine moss and spiders' webs, and externally covered with bits of *Hepatica* and *Hypnum* to resemble a piece of bark. The eggs, usually four, pinkish-white, covered at the large end with reddish-brown dots and marks. The song is irregular, "to whit-to whee—to whit-to wheo," repeated incessantly as they flit among the leaves for food, their favorite tree being the large oak (*Q. garryana*).

30. *Ampelis garrulus* Linn. (waxwing).—I obtained a pair of

these beautiful birds during a snowstorm in January, 1876, at Forest Grove. They were feeding at the time on rose berries.

31. *Ampelis cedrorum* Vieill. (cedar bird).—An abundant summer resident, nesting extensively in the groves of small Douglass spruce.

32. *Collurio borealis* Vieill. (Northern shrike).—Quite common resident, though I have not found it breeding.

33. *Pyranga ludoviciana* Wils. (Louisiana tanager).—Another one of those common summer residents that seem to defy all attempts at the discovery of its nest.

34. *Curvirostra americana* Wils. (red crossbill). Common among the evergreen covered mountains, and coming down to the valley in winter. I have not seen its nest.

35. *Carpodacus californicus* Baird (Western purple finch).—Common summer resident, and breeds, though I have not yet found a nest. It is noted for its habit of cutting off the bloom of the cherries for the embryonic seed therein. Its note of alarm is a "quit—quit," and its song a warbling "whidly-whidly-whidly," repeated very rapidly.

36. *Chrysomitris tristis* Linn. (yellow bird). A common summer resident, breeding extensively, with the usual habits of the species.

37. *Chrysomitris pinus* Wils. (pine finch).—A common winter resident, living in flocks, and frequenting fields and gardens for seeds, virtually taking the place of the preceding at that time. It probably breeds in the mountains.

38. *Hesperiphona vespertina* Coop. (evening grosbeak).—Sometimes plentiful during the spring migrations, frequenting the maple (*A. macrophyllum*), the seeds of which are a favorite food. The only note I observed was a loud "yeeip," strikingly like the call of a lost chicken.

39. *Passerculus sandwichensis* Gmel. (Alaskan sparrow).—Seen sparingly during the migration, which is usually in small flocks.

[ *To be continued.* ]